

LANDFIRE/GAP Land Cover Map Unit Descriptions

Modified by GAP/USGS to incorporate descriptions
for all LANDFIRE Map Units, and the 2015 NVC Hierarchy
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Based on NatureServe Ecological Systems
Version 1.13
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3309: Southern Appalachian Northern Hardwood Forest

Match Confidence: Direct Match

Suggested Match: Southern Appalachian Northern Hardwood Forest

Codes: ESLE: 4115

EVT_fuel: 2309

ESP: 1309

NatureServe Id: CES202.029

BioGeographical Division : Central Interior and Appalachian

NVC MacroGroup: M883 Appalachian, Interior & Northeastern Mesic Forest

NVC Group: G742 Appalachian & Allegheny Northern Hardwood - Conifer Forest

1997 Standard

FGDC Division : Vegetated

FGDC Order : Tree-dominated

FGDC Class : Closed tree canopy

FGDC Subclass : Deciduous closed tree canopy

2015 Standard

NVCS Class: 1 Forest & Woodland

NVCS Subclass: 1.B Temperate & Boreal Forest & Woodland

NVCS Formation: 1.B.2 Cool Temperate Forest & Woodland

NVCS Division: 1.B.2.Na Eastern North American & Great Plains Cool Temperate Forest & Woodland

Summary: This system consists of hardwood forests of the higher elevation zones of the Southern Appalachians, generally above 1372 m (4500 feet) elevation. Included are classic northern hardwood forests, dominated by various combinations of mesophytic hardwoods, which interfinger with high-elevation oak forests downslope or on more exposed aspects. The combination of elevation and aspect provides habitat for this system. Included in this system are limited areas locally known as "beech gaps" and "boulderfields." Stands are dominated by various combinations of Appalachian mesophytic trees, including *Betula alleghaniensis*, *Fagus grandifolia*, *Aesculus flava*, *Acer saccharum*, and *Tsuga canadensis*. *Prunus serotina* and *Tilia americana* var. *heterophylla* are occasionally abundant. *Quercus rubra* may be present but is not dominant. In Kentucky, this system is of extremely limited extent, being restricted to areas above about 1100-1160 m (3600-3800 feet) elevation on Black Mountain, the highest elevation in Kentucky, which is apparently higher in elevation than adjacent areas in Tennessee and Virginia.

Range: This system is primarily found in the Southern Blue Ridge, where it ranges from northwestern Georgia, western North Carolina and eastern Tennessee northward to southern Virginia. In Kentucky, this system is restricted to the Cumberland Mountains in the extreme southeastern corner of that state.

States: GA, KY, NC, TN, VA

Map Zones: 53:C, 57:C, 61:C

Similar: Appalachian (Hemlock)-Northern Hardwood Forest (CES202.593), Central and Southern Appalachian Montane Oak Forest (CES202.596), Southern Appalachian Oak Forest (CES202.886)

Descriptors:

Lifeform : Broad-Leaved Tree

Major Physiognomy : Forest and Woodland (Tree)

Life Zones : Montane

3315: Southern Appalachian Oak Forest

Match Confidence: Direct Match

Suggested Match:

Codes: ESLE: 4121

EVT_fuel: 2315

ESP: 1315

NatureServe Id: CES202.886

BioGeographical Division : Central Interior and Appalachian

NVC MacroGroup: M502 Appalachian & Northeastern Oak - Hardwood & Pine Forest

NVC Group: G015 Appalachian Oak / Chestnut Forest

1997 Standard

FGDC Division : Vegetated

FGDC Order : Tree-dominated

FGDC Class : Closed tree canopy

FGDC Subclass : Deciduous closed tree canopy

2015 Standard

NVCS Class: 1 Forest & Woodland

NVCS Subclass: 1.B Temperate & Boreal Forest & Woodland

NVCS Formation: 1.B.2 Cool Temperate Forest & Woodland

NVCS Division: 1.B.2.Na Eastern North American & Great Plains Cool Temperate Forest & Woodland

Summary: This system consists of predominantly dry-mesic (to dry) forests occurring on open and exposed topography at lower to mid elevations in the Southern Blue Ridge and Southern Ridge and Valley ecoregions. This is the upland forest that characterizes much of the lower elevations of these areas. Substrates of stands included in this system can range from acidic to circumneutral or basic, and the vegetation varies accordingly. Bedrock may be of any type. Soils are usually deep residual soils but are often rocky. Some shallow soils and colluvium may be present locally within the group, but shallow soils tend to produce environments that are more extreme and have a larger component of various pine species. Typically, the vegetation consists of forests dominated by oaks, especially *Quercus prinus*, *Quercus alba*, *Quercus rubra*, *Quercus velutina*, and *Quercus coccinea*, with varying amounts of *Carya* spp., *Nyssa sylvatica*, *Acer rubrum*, and other species such as *Pinus strobus* and *Fraxinus americana*. Historically, *Castanea dentata* was a dominant or codominant in many of these communities until its virtual elimination by the chestnut blight fungus (*Cryphonectria parasitica*) during the early 1900s. Some areas (usually on drier sites) now have dense evergreen ericaceous shrub layers of *Kalmia latifolia*, with *Rhododendron* spp. on more mesic sites. Some other areas have deciduous ericad layers, sometimes consisting of *Vaccinium* spp. or *Gaylussacia* spp. This system concept also includes many successional communities that have been impacted by logging or agriculture, such as types dominated by *Liriodendron tulipifera*, *Pinus* spp., and *Robinia pseudoacacia*. This system is naturally dominated by stable, uneven-aged forests, with canopy dynamics dominated by gap-phase regeneration. Most oaks are long-lived with typical age of mortality ranging from 200 to 400 years. Scarlet and black oaks are shorter lived with typical ages being approximately 50 to 100 years, while white oaks can live as long as 600 years.

Range: Carolina north into the Southern Blue Ridge of Virginia to the Roanoke River in the Blue Ridge, and slightly farther south in the Ridge and Valley. It occurs in very limited montane outliers in the Piedmont, and possibly on Pine/Black mountain in Kentucky.

States: GA, KY, NC, SC, TN, VA, WV

Map Zones: 53:C, 57:C, 59:C, 61:P

Similar: Allegheny-Cumberland Dry Oak Forest and Woodland (CES202.359), Central Appalachian Dry Oak-Pine Forest (CES202.591), Central and Southern Appalachian Montane Oak Forest (CES202.596), Northeastern Interior Dry-Mesic Oak Forest (CES202.592), Southern Appalachian Montane Pine Forest and Woodland (CES202.331), Southern Appalachian Northern Hardwood Forest (CES202.029)

Descriptors:

Floristics/Dominants : Quercus - Carya

Lifeform : Broad-Leaved Deciduous Tree

Glacial History : Unglaciaded

Topography : High Ridge/Upper Slope

Major Physiognomy : Forest and Woodland (Tree)

3318: Southern and Central Appalachian Cove Forest

Match Confidence: Direct Match

Suggested Match:

Codes: ESFL: 4124

EVT_fuel: 2318

ESP: 1318

NatureServe Id: CES202.373

BioGeographical Division : Central Interior and Appalachian

NVC MacroGroup: M883 Appalachian, Interior & Northeastern Mesic Forest

NVC Group: G020 Appalachian & Interior Mesic Forest

1997 Standard

FGDC Division : Vegetated

FGDC Order : Tree-dominated

FGDC Class : Closed tree canopy

FGDC Subclass : Deciduous closed tree canopy

2015 Standard

NVCS Class: 1 Forest & Woodland

NVCS Subclass: 1.B Temperate & Boreal Forest & Woodland

NVCS Formation: 1.B.2 Cool Temperate Forest & Woodland

NVCS Division: 1.B.2.Na Eastern North American & Great Plains Cool Temperate Forest & Woodland

Summary: This system consists of mesophytic hardwood or hemlock-hardwood forests of sheltered topographic positions in the Southern Blue Ridge and central Appalachian Mountains. Examples are generally found on concave slopes that promote moist conditions. The system includes a mosaic of acidic and "rich" coves that may be distinguished by individual plant communities based on perceived differences in soil fertility and species richness (rich examples have higher diversity and density in the herbaceous layer). Both acidic and rich coves may occur in the same site, with the acidic coves potentially creeping out of the draw-up to at least midslope on well-protected north-facing slopes. Characteristic species in the canopy include *Aesculus flava*, *Acer saccharum*, *Fraxinus americana*, *Tilia americana*, *Liriodendron tulipifera*, *Halesia tetraptera*, *Tsuga canadensis*, *Fagus grandifolia*, *Magnolia acuminata*, and *Magnolia fraseri*.

Range: This system occurs in the southern and central Appalachian Mountains, ranging into the Cumberland Mountains of Kentucky and Tennessee. This range is more-or-less consistent with the "Oak-Chestnut" forest region of Braun (1950) and Greller (1988), versus the "Mixed Mesophytic" and "Western Mesophytic" forest regions to the west.

States: GA, KY, MD, NC, SC, TN, VA, WV

Map Zones: 53:C, 57:C, 61:C, 62:C

Similar: Appalachian (Hemlock)-Northern Hardwood Forest (CES202.593), South-Central Interior Mesophytic Forest (CES202.887), Southern Piedmont Mesic Forest (CES202.342)

Descriptors:

Lifeform : Broad-Leaved Tree

Major Physiognomy : Forest and Woodland (Tree)

3321: South-Central Interior Mesophytic Forest

Match Confidence: Direct Match

Suggested Match:

Codes: ESLE: 4127

EVT_fuel: 2321

ESP: 1321

NatureServe Id: CES202.887

BioGeographical Division : Central Interior and Appalachian

NVC MacroGroup: M883 Appalachian, Interior & Northeastern Mesic Forest

NVC Group: G020 Appalachian & Interior Mesic Forest

1997 Standard

FGDC Division : Vegetated

FGDC Order : Tree-dominated

FGDC Class : Closed tree canopy

FGDC Subclass : Deciduous closed tree canopy

2015 Standard

NVCS Class: 1 Forest & Woodland

NVCS Subclass: 1.B Temperate & Boreal Forest & Woodland

NVCS Formation: 1.B.2 Cool Temperate Forest & Woodland

NVCS Division: 1.B.2.Na Eastern North American & Great Plains Cool Temperate Forest & Woodland

Summary: These high-diversity, predominately deciduous forests occur on deep and enriched soils (in some cases due to, or enhanced by, the presence of limestone or related base-rich geology), in non-montane settings and usually in somewhat protected landscape positions such as coves or lower slopes. The core distribution of this system lies in the Cumberland and Allegheny plateaus, extending into the adjacent southern Ridge and Valley and portions of the Interior Low Plateau where it is located entirely south of the glacial boundary. Dominant species include *Acer saccharum*, *Fagus grandifolia*, *Liriodendron tulipifera*, *Tilia americana*, *Quercus rubra*, *Magnolia acuminata*, and *Juglans nigra*. *Tsuga canadensis* may be a component of some stands. Trees may grow very large in undisturbed areas. The herb layer is very rich, often with abundant spring ephemerals. Many examples may be bisected by small streams.

Range: This system occurs in southeastern Ohio east to Virginia, West Virginia, Kentucky, Tennessee, Georgia, and Alabama, with disjunct occurrences in unglaciated southwestern Pennsylvania and southwestern New York. This range is more-or-less consistent with the "Mixed Mesophytic" and "Western Mesophytic" (non-coastal plain portion only) forest regions of Braun (1950) and Geller (1988), although it does extend into unglaciated portions of the "Beech-Maple" region to the north. Thus, this system is most extensive in the Cumberland and Allegheny plateaus, as well as the unglaciated Interior Low Plateau, and becomes relatively limited in extent towards its western limit in the Ozark Hills of Illinois, and towards its northern limit in southwestern New York.. It is replaced in the Upper East Gulf Coastal Plain by other systems. Its range also includes the southern Ridge and Valley from Tennessee (and adjacent southwestern Virginia) to Alabama. Parts of the Cumberland Mountains (EPA 69 in Kentucky and Tennessee) are instead occupied by ~Southern and Central Appalachian Cove Forest (CES202.373)\$. ~North-Central Interior Beech-Maple Forest

(CES202.693)\$\$ replaces this one in EPA 72b of Indiana.

States: AL, GA, IL, IN, KY, NY, OH, PA, TN, VA, WV

Map Zones: 47:C, 48:C, 49:C, 53:C, 57:C, 61:C, 62:C, 63:C

Similar: Appalachian (Hemlock)-Northern Hardwood Forest (CES202.593), North-Central Interior Beech-Maple Forest (CES202.693), Ozark-Ouachita Mesic Hardwood Forest (CES202.043), Southern and Central Appalachian Cove Forest (CES202.373)

Descriptors:

Lifeform : Broad-Leaved Deciduous Tree
Soil Fertility : Eutrophic
Glacial History : Unglaciaded
Topography : High-Low Slope
Major Physiognomy : Forest and Woodland (Tree)